<u>REMARKS</u>

Claims 1-10 are all the claims pending in the application.

I.   Allowable Subject Matter

The Examiner has indicated that claims 6 and 9 contain allowable subject matter and

would be allowed if rewritten in independent form including all of the limitations of the base

claim and any intervening claims. Applicant requests that the Examiner hold rewriting claims 6

and 9 in abeyance until the rejection of the parent claims has been reconsidered.

II.   Specification

The Examiner objected to the placement of the heading insertions that were made in the

Preliminary Amendment. Applicant has amended the specification to correct the placement of

the heading insertions that were made in the Preliminary Amendment. Accordingly, Applicant

respectfully requests that the objection to the specification be reconsidered and withdrawn.

III.   Claim Rejections

Claims 1-4, 7 and 8 stand rejected under 35 U.S.C. § 102(e) as being anticipated by the

admitted prior art of the instant application. Claims 5 and 10 stand rejected under 35 U.S.C. §

103(a) as being unpatentable over the admitted prior art of the instant application in view of

section 9 of the ADSL Standard Specification Release 2 entitled 'Network and Customer

Installation Interfaces - Asymmetric Digital Subscriber Line (ADSL) Metallic Interface',

published by the American National Standards Institute (ANSI) under the reference ANSI

T1.413-1998.

To be an "anticipation" rejection under 35 U.S.C. § 102, the reference must teach every element and limitation of the Applicant's claims. Rejections under 35 U.S.C. § 102 are proper only when the claimed subject matter is identically disclosed or described in the prior art. Moreover, to establish a *prima facie* case of obviousness under 35 U.S.C. § 103(a) the Examiner must show that the prior art references, when combined, teach or suggest all of the claim limitations. See MPEP § 2143. As a result, in order for the Examiner to maintain a rejection under either 35 U.S.C. § 102 or 103, the references must teach all of the limitations of the claims. Applicant respectfully submits that the references cited above by the Examiner fail to teach or suggest all of the claim limitations as set forth in the present invention.

Specifically, Applicant submits that the admitted prior art fails to teach that "said means (BiGi_PROD) for producing carrier constellation information is adapted to produce for at least one respective carrier subset (SUBSET1, SUBSET2, ..., SUBSET8) a set of parameter values (B1, G1; B2, G2; ...; B8, G8) from which constellations of all carriers (f_0 ... f_{511}, f_{512} ... f_{1023}, ..., f_{3584} ... f_{4095}) in said at least one respective carrier subset (SUBSET1; SUBSET2; ...; SUBSET8) can be retrieved through interpolation." In making the rejection, the Examiner relies on the disclosure on page 1, lines 7-24 of Applicant's specification to teach this limitation. Page 1, lines 7-24 of Applicant's specification recites the following:

> Such arrangements are already known from section 9 of *the ADSL Standard Specification Release 2 entitled 'Network and Customer Installation Interfaces - Asymmetric Digital Subscriber Line (ADSL) Metallic Interface', published by the American National Standards Institute (ANSI) under the reference ANSI T1.413-1998.* Therein, the ADSL transceiver initialisation procedure is described. According to paragraph 9.8.13, the central office ADSL transceiver produces bits and gains information, i.e. constellation

information, for the ADSL upstream carriers and transmits this bits
and gains information to the remote ADSL transceiver
encapsulated in a message named C-B&G. The bits and gains
information consists of a bit number bi which is an unsigned 4-bit
integer representing the number of bits to be modulated by the
remote ADSL transceiver on the i'th upstream carrier, and a gain
value gi which is an unsigned 12-bit fixed point quantity
representing the gain to be used for transmission of the i'th
upstream carrier. The constellation information produced and
transmitted for each upstream carrier thus comprises 16 bits. Upon
receipt by the remote ADSL transceiver, the bits and gains
information is used to control the upstream data modulator.
Similarly, paragraph 9.9.14 of the above referenced ADSL
standard specifies that the remote ADSL transceiver has to produce
similar bits and gains information for the ADSL downstream
carriers and has to transmit this bits and gains information to the
central office ADSL transceiver encapsulated in a message named
R-B&G.

As seen from the above passage, there is no mention of producing parameter values for a

carrier subset. In fact, there is no mention of grouping the carrier into carrier subsets or

interpolation of parameter values that are based on carrier subsets. As explained further on page

2 of Applicant's specification, since the admitted prior art does not produce parameter values for

carrier subsets, implementing the admitted prior art system into a multi-carrier system would

create severe delays because the constellation information would itself become very lengthy.

Thus, the transmitting and receiving arrangements of claims 1 and 7 solve this problem by

grouping the carriers in subsets and by transmitting for each subset only a limited set of

parameter values as constellation information from which the constellation of each carrier in the

subset can be derived through interpolation. As a result, the size of the constellation information

message to be transferred is reduced significantly.

Accordingly, it is clear that the admitted prior art does not group the carrier into subsets, nor produce parameter values for each carrier subset, nor derive the constellation information from interpolation of the parameter values. Therefore, Applicant submits that the admitted prior art fails to teach all of the limitations of claims 1-4, 7 and 8, and thus, Applicant requests that the rejection of claims 1-4, 7 and 8 under 35 U.S.C. § 102(e) be reconsidered and withdrawn. Additionally, since section 9 of the ADSL Standard Specification Release 2 fails to cure the deficient teaching of the admitted prior art with respect to claims 1 and 7, Applicant requests that the rejection of claims 5 and 10 under 35 U.S.C. § 103(a) be reconsidered and withdrawn.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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